

AMPHIBIOUS TRANSPORT SHIP
Operated by Royal Netherlands Navy.
Built by Royal Schelde Shipyard, Vlissingen



The RNLS ROTTERDAM is an amphibious transport ship and is designed as a multi-purpose ship for coping with the wide variety of tasks of a modern navy. She can be used for transporting cargo, troops and equipment but is also suitable for carrying four to eight landing craft.

On board there is accommodation for about 700 men and a fully-equipped hospital. There is also a 16MW electrical power station on board. A diesel-electric propulsion system proved to be the most suitable for its wide variety of tasks. Brush HMA supplied the fore main generators and the variable speed drives for the ship propulsion and bow thruster. The main propulsion consists of two 3.1MW tandem-connected cage-induction motors per propeller.

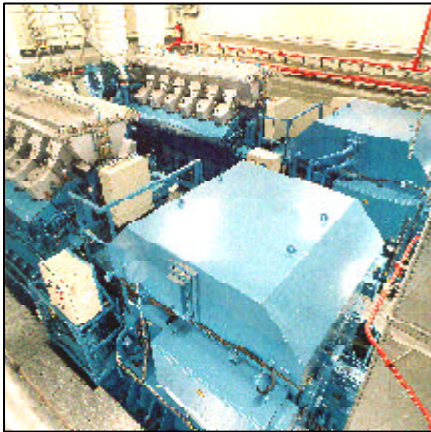
The FID 5000 frequency converters are equipped with a water-cooled 12-pulse rectifier and GTO inverter. The customer chose a main voltage of 6.6kV, resulting in very efficient use of all ancillary equipment such as switches, switchboards and cables.

In an emergency, the inverters are capable of stopping the ship from full speed within two ship lengths. The FID 5000 frequency converters have Lloyd's Register Type approval.

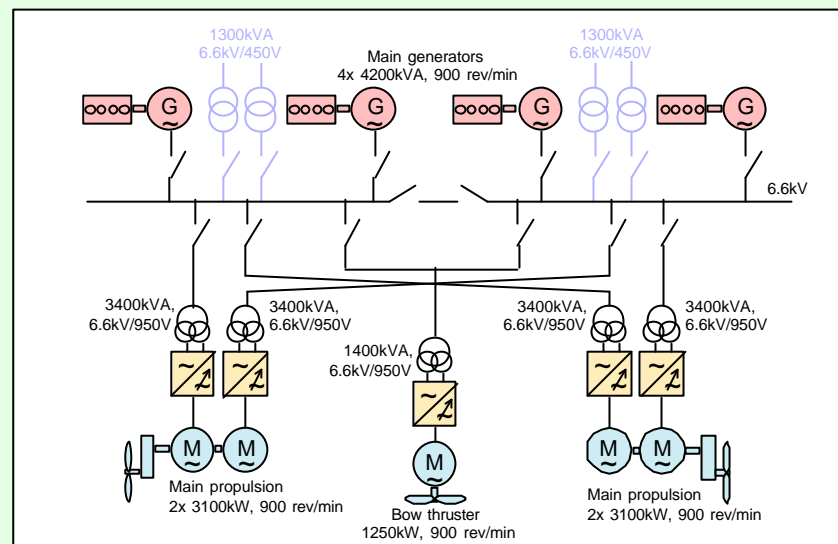


Why FKI?

- FKI offers a system approach for variable-speed drives. The frequency converter and motor combination are designed and optimized for use together. This results in a very well-matched system.
- FKI is an acknowledged supplier of electric propulsion drives for submarine applications.
- FKI produces reliable equipment of high quality which is important for demanding applications like propulsion.
- Brush HMA has a long-lasting relationship with the Royal Netherlands Navy.
- FKI static frequency converters have an outstanding track record in demanding applications such as traction, crane and marine systems.
- The water-cooled FID 5000 static frequency converter is compact and needs little "expensive" space in the vessel.
- The use of an electric drive system results in a very quiet ship because structure-borne noise and vibration from the engines are more easily isolated.
- FID 5000 static frequency converters are used in combination with AC cage-induction motors. These motors have a very simple construction which results in low maintenance costs and long life.
- FID 5000 variable-speed drives offer excellent performance in emergency-stop and zero shaft speed situations.
- Stable power supply (5% THD).



ROTTERDAM: simplified one-line diagram of main power system



ROTTERDAM: Main Specification

Length:	163m
Height:	46.2m
Width:	25m
Depth:	59m
Displacement:	12000 tonnes
Maximum speed:	19 knots
Electrical power:	16MW
Capacity:	700 persons
	1400m ³ garage
	400 m ³ store
Complete hospital.	
Classification:	Lloyd's

Summary of equipment supplied for each vessel:

- 4 Main diesel-driven generators, 4200kVA, 6.6kV, 900 rev/min, freshwater cooled
- 2 Tandem-connected (2 per propeller) cage-induction motors, 3.1MW each, freshwater cooled
- 1 Vertical cage bow thruster motor, 1250kW, 900 rev/min, freshwater cooled
- 5 FID 5000 frequency converters/water-cooled 12-pulse rectifier input bridge suitable for 4 quadrant operation
- 1 Medium voltage switchboard, 25kA, 6.6kV



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